

WHAT IS CLAIMED IS:

1. A capacitor anode comprising niobium powder, wherein said anode has a capacitance of at least 65,000 CV/g, and said anode is formed at a voltage of less than about 60 volts.

5 2. The capacitor anode of claim 1, wherein said anode has a capacitance of from 65,000 to about 250,000 CV/g.

3. The capacitor anode of claim 1, wherein said anode has a capacitance of from about 75,000 to about 250,000 CV/g.

4. The capacitor anode of claim 1, wherein said anode has a capacitance of from about 100,000 to about 250,000 CV/g.

5. The capacitor anode of claim 1, wherein said anode has a capacitance of from about 125,000 to about 250,000 CV/g.

6. The capacitor anode of claim 1, wherein said anode has a capacitance of from about 100,000 to about 210,000 CV/g.

15 7. The capacitor anode of claim 1, wherein said anode is formed at a voltage of from about 30 to about 50 volts.

8. The capacitor anode of claim 1, wherein said niobium powder comprises flaked niobium powder.

9. A capacitor anode comprising niobium powder having a BET surface area of at least about 5.5 m²/g, wherein said anode is formed at a voltage of less than about 60 volts.

20 10. The capacitor anode of claim 9, wherein said niobium powder has a BET surface area of at least about 7.0 m²/g.

11. The capacitor anode of claim 9, wherein said niobium powder has a BET surface area of at least about 10 m²/g.

25 12. The capacitor anode of claim 9, wherein said niobium powder has a BET surface area of from 6.0 m²/g to about 12 m²/g.

13. The capacitor anode of claim 1, wherein said niobium powder is sintered at a temperature of from about 1200°C to about 1750°C.

14. The capacitor anode of claim 1 having a phosphorus level of less than about 400 ppm.

15. The capacitor anode of claim 1, wherein said niobium powder is nitrogen doped.

16. The capacitor anode of claim 1, wherein said niobium powder has at least about 100 ppm of nitrogen present.

17. The capacitor anode of claim 1, wherein said niobium powder has nitrogen present in an amount of from about 100 ppm to about 5,000 ppm.

18. The capacitor anode of claim 2, wherein said niobium powder is nitrogen doped.

19. The capacitor anode of claim 3, wherein said niobium powder is nitrogen doped.

20. The capacitor anode of claim 4, wherein said niobium powder is nitrogen doped.

21. The capacitor anode of claim 5, wherein said niobium powder is nitrogen doped.

22. The capacitor anode of claim 6, wherein said niobium powder is nitrogen doped.

23. The capacitor anode of claim 7, wherein said niobium powder is nitrogen doped.

24. The capacitor anode of claim 8, wherein said niobium powder is nitrogen doped.

25. The capacitor anode of claim 9, wherein said niobium powder is nitrogen doped.

26. The capacitor anode of claim 10, wherein said niobium powder is nitrogen doped.

27. The capacitor anode of claim 2, wherein said niobium powder has at least about 100 ppm of nitrogen present.

28. The capacitor anode of claim 3, wherein said niobium powder has at least about 100 ppm of nitrogen present.

29. The capacitor anode of claim 4, wherein said niobium powder has at least about 100 ppm of nitrogen present.

30. The capacitor anode of claim 5, wherein said niobium powder has at least about 100 ppm of nitrogen present.

31. The capacitor anode of claim 6, wherein said niobium powder has at least about 100 ppm of nitrogen present.

32. The capacitor anode of claim 7, wherein said niobium powder has at least about 100 ppm of nitrogen present.

33. The capacitor anode of claim 8, wherein said niobium powder has at least about 100 ppm of nitrogen present.

34. The capacitor anode of claim 9, wherein said niobium powder has at least about 100 ppm of nitrogen present.

35. The capacitor anode of claim 10, wherein said niobium powder has at least about 100 ppm of nitrogen present.